

SIGMA[®]



BIOCHEMICALS ORGANIC COMPOUNDS AND DIAGNOSTIC REAGENTS

TO PLACE AN ORDER

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SUPPLIES

DIAGNOSTIC
KITS AND
REAGENTS

NEW
PRODUCTS

GENERAL INFORMATION

Filtration

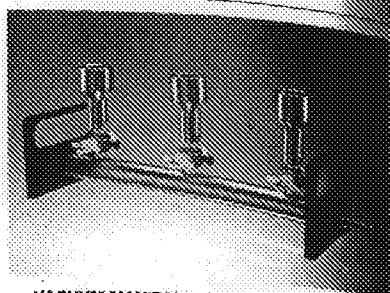
FILTRATION

PRODUCT
NUMBER

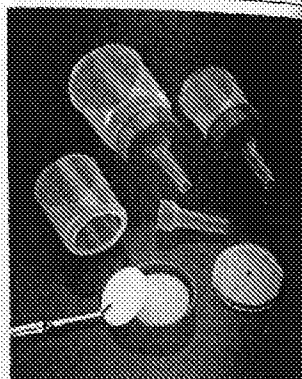
US \$

PRODUCT
NUMBER

US \$

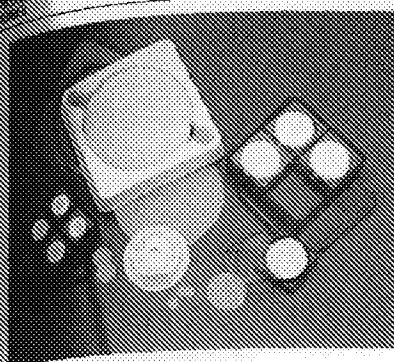
**VACUUM MANIFOLD, Nalgene**

M 4664 Stainless steel with PTFE stopcocks. Designed with three vacuum ports, each with a two-way valve and vent. Barbed fitting accepts 3/8" (9.5 mm) I.D. tubing. Autoclavable

**ANALYTICAL TEST FILTER FUNNEL, Nalgene**

Sterile, with 47 mm nitrocellulose membrane. Funnel body is polypropylene with polystyrene collar. Can be used in standard vacuum manifolds or filter flasks. Funnel and collar separate for removal of membrane.

2536	Membrane: 0.2 μ m, white	50 / pkg	127.2
	Funnel capacity: 100 ml		
2286	Membrane: 0.2 μ m, white	50 / pkg	138.8
	Funnel capacity: 250 ml		
2161	Membrane: 0.45 μ m, gridded	50 / pkg	127.2
	Funnel capacity: 100 ml		
2411	Membrane: 0.45 μ m, gridded	50 / pkg	138.8
	Funnel capacity: 250 ml		

**FILTER MEMBRANES, NITROCELLULOSE**

Biologically inert nitrocellulose membranes containing a small amount of cellulose acetate for improved handling.

Autoclavable to 121°C; use below 75°C.

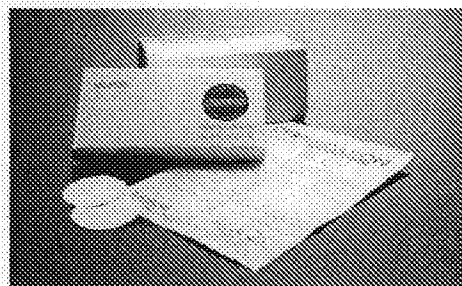
Chemically compatible with dilute acids and bases, hydrocarbons, non-polar liquids.

See also Immobilon-NC in the Electrophoresis Equipment section for nitrocellulose blotting membranes.

MF-Millipore and TF-Millipore are registered trademarks of Millipore Corp.

Product Number	Pore Size (μ m)	Diameter (mm)	Pkg	Price US \$
MF-Millipore membranes have water extractables <5%, including a Triton testing agent.				
N 9395	0.22	13	100	43.30
N 9520		25	100	45.35
N 9645		47	100	66.95
N 9770		142	50	162.75
Z35,553-7		293	25	185.85
N 9895	0.45	13	100	44.30
N 9930		25	100	37.10
N 9145		47	100	66.95
N 9270		142	50	162.75
Z35,554-3		293	25	185.85
N 9032	0.65	25	100	50.50
N 9147		47	100	77.25
N 9772	0.8	25	100	46.35
N 9897		47	100	77.25
Z35,573-6		293	25	196.35
N 9321	5	13	100	44.30
N 9646		25	100	49.45
N 9771		47	100	82.40
N 9896	8	13	100	44.30
N 9021		25	100	50.50
N 9146		47	100	82.40
N 9271		142	50	173.25

Product Number	Pore Size (μ m)	Diameter (mm)	Pkg	Price US \$
TF-Millipore membranes are Triton-free and have even lower water-extractables than MF membranes.				
N 9395	0.22	13	100	52.55
N 9520		25	100	45.35
N 9645		47	100	66.95
N 9770		142	50	141.15
N 9895	0.45	13	100	48.45
N 9146		25	100	45.35
N 9271		47	100	79.15
N 9521		142	50	155.55

**FILTER MEMBRANES FOR MICROBIOLOGICAL ANALYSIS**

Filter type HA, 0.45 μ m pore size, is designed to give complete retention and maximum recovery of total coliforms and fecal coliform bacteria. Complies with applicable U.S. EPA Standard methods and ASTM specifications for membrane filters used for drinking water analysis.

Filter type HC, 0.7 μ m pore size, is designed for improved recovery of stressed fecal coliform organisms, especially those found in chlorinated effluents. The larger pore size permits faster filtration if the water sample has a higher particulate burden. Both filters are Millipore mixed cellulose esters (CA + CN).

S-PAK: filter membranes, sterile, individually sealed

Z35,553-4 0.45 μ m pore size (HA filter) 200 / pkg 80.00
White with black grid sur- 1,000 / pkg 289.00
face

Z35,554-2 0.45 μ m pore size (HA filter) 1,000 / pkg 482.00
Black with white grid sur-
face

Z35,555-0 0.7 μ m pore size (HC filter) 200 / pkg 80.00
White with black grid sur- 1,000 / pkg 355.00
face

S-Kit: filter membrane plus absorbent pad, sterile, individually sealed, packed in 100's in dispenser tubes

Z35,556-9 0.45 μ m pore size (HA filter) 1,000 / pkg 310.00
White with black grid sur-
face

Z35,557-7 0.7 μ m pore size (HC filter) 200 / pkg 82.00
White with black grid sur- 1,000 / pkg 380.00
face

Z35,558-5 Absorbent pads, 47 mm 100 / pkg 25.00
diameter, without membrane, 200 / pkg 35.50
for use as filter support.

How to use price list - page 2.

Equipment, Books and Supplies are shipped FOB Sigma.

2179

FILTR

185

Membranes of PTFE are biologically inert and have broad chemical compatibility.
Fluoropore and Mitex are registered trademarks of Millipore Corp.

Product Number	Pore Size (μm)	Circle diam. (mm)	Pkg	Price (US \$)
<p>Fluoropore PTFE membranes have a high-density polyethylene backing to improve handling. Compatible with solvents, acids, and bases (except aromatic hydrocarbons above 80°C.</p>				

Product Number	Pore Size (µm)	Circle diam. (mm)	Pkg	Price (US \$)
<p>Fluoropore PTFE membranes have a high-density polyethylene backing to improve handling. Compatible with solvents, acids, and bases (except aromatic hydrocarbons above 80°C.</p>				
P 0325	0.2	25	100	177.50
P 0450		47	100	228.00
P 0575		13	100	149.00
P 0700		25	100	189.50
P 0825	1.0	47	100	233.00
P 0949		35	100	169.50
P 1200		47	100	244.00

Unlaminated Fluoropore PTFE membrane (no polyethylene backing) with stands even high-temperature aromatic solvents.

P 1200	0.5	47	100	287.4
Millex PTFE membranes are unlined and hydrophobic. Before use with aqueous solutions, they must be pre-wet with, e.g., methanol.				
P 1675	5	47	100	278.6
P 0950	10	47	100	275.6

Millex PTFE membranes are unlaminated and hydrophobic. Before use with aqueous solutions, they must be pre-wet with, e.g., methanol.

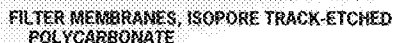
P 1075	5	47	100	275.0
P 0950	10	47	100	275.0

Durapore PVDF membranes are ideal for sterilization and clarification of protein solutions. Protein binding is on the order of $1 \mu\text{g}/\text{cm}^2$, two orders of magnitude lower than nylon, nitrocellulose, or PTFE.

Excellent chemical compatibility (except ketones, esters, amines, trifluoroacetic acid).
See also: Immobilon-P and Immobilon-P³⁰ in the Electrophoresis Equipment section for PVDF blotting membranes.

Durapore is a registered trademark of Millipore Corp.

Product Number	Pore Size (µm)	Diameter (mm)	Pkg	Price US \$
P 9074	0.10	47	100	85.50
P 1188	0.22	13	100	51.30
P 1313		25	100	81.50
P 1438		47	100	84.50
P 1563		142	50	216.50
Z35.871-1		293	25	206.50
P 1688	0.45	13	100	58.50
P 1813		25	100	59.50
P 1938		47	100	62.50
P 4313		142	50	210.50
Z35.870-3		293	25	214.50
P 8949	5	47	100	82.50



Unique membrane for collection of particulates for inspection by light or electron microscopy. Isopore membranes have a flat, glassy, non-staining surface. They are hydrophilic, with a PVP wetting agent, and autoclavable.

Thickness: $10 \pm 0.5 \mu\text{m}$

Color: white

Manufacturing process produces a membrane with precise pore size and narrow pore size distribution for accurate separations by particle size.

RWTH AACHEN UNIVERSITY

For general laboratory uses, inclusion qualitative techniques and determinations. A range of papers with a variety of retention characteristics and flow rates are available. Wet-strengthened papers have a small quantity of a soluble resin

Maximum ash: 0.06%

[illegible]

LTRATION

FILTRATION

US \$

PRODUCT

NUMBER

FILTER MEMBRANES, FLUOROPORE AND MITEX POLYTETRAFLUOROETHYLENE (PTFE)

Membranes of PTFE are biologically inert and have broad chemical compatibility. Fluoropore and Mitex are registered trademarks of Millipore Corp.

Product Number	Pore Size (µm)	Circle diam. (mm)	Pkg	Price US \$
Fluoropore PTFE membranes have a high-density polyethylene backing to improve handling. Compatible with solvents, acids, and bases (except aromatic hydrocarbons above 80°C).				
P 0325	0.2	25	100	17.00
P 0450		47	100	23.00
P 0575	0.5	13	100	14.00
P 0700		25	100	18.00
P 0825		47	100	25.00
P 9949	1.0	25	100	19.00
P 9200		47	100	24.00
Unlaminated Fluoropore PTFE membrane (no polyethylene backing) withstands even high-temperature aromatic solvents.				
P 1200	0.5	47	100	38.00
Mitex PTFE membranes are unlaminated and hydrophobic. Before use with aqueous solutions, they must be pre-wet with, e.g., methanol.				
P 1075	5	47	100	27.00
P 9950	10	47	100	27.00

FILTER MEMBRANES, DURAPORE POLYVINYLIDENE DIFLUORIDE (PVDF)

Durapore PVDF membranes are ideal for sterilization and clarification of protein solutions. Protein binding on the order of 1 µg/cm², two orders of magnitude lower than nylon, nitrocellulose, or PTFE. Autoclavable to 135°C. Excellent chemical compatibility (except ketones, esters, amines, trifluoroacetic acid). See also: Immobilon-P and Immobilon-P⁵⁰ in the Electrophoresis Equipment section for PVDF blotting membranes. Durapore is a registered trademark of Millipore Corp.

Product Number	Pore Size (µm)	Diameter (mm)	Pkg	Price US \$
P 9074	0.10	47	100	22.00
P 1188	0.22	13	100	14.00
P 1313		25	100	18.00
P 1438		47	100	25.00
P 1563		142	50	28.00
Z35,871-1		293	25	28.00
P 1688	0.45	13	100	14.00
P 1813		25	100	18.00
P 1938		47	100	25.00
P 4313		142	50	28.00
Z35,870-3		293	25	28.00
P 8949	5	47	100	27.00

WHATMAN QUALITATIVE FILTER PAPERS

For general laboratory uses, including qualitative analytical techniques and determinations. A range of papers with a variety of retention characteristics and flow rates are available. Wet-strengthened papers have a small quantity of a soluble resin added.

Maximum ash: 0.02%

	Grade 1	Grade 2	Grade 2V	Grade 3	Grade 4	Grade 5	Grade 6	Grade 113	Grade 113V
Medium retention and low rate for routine laboratory work		Slower filtration rate than Grade 1 with better bounce retention. Pre-pleated Grade 2V saves time and improves flow rate compared to standard Gator papers.		Thick, high leading capacity and fine pore size. Excellent for high flow rate and low retention. Suitable for bacterial samples.	High flow rate with good bounce retention at large pore sizes and excellent prepleated for bacterial prepleated.	The most efficient qualitative paper for bacterial counts, but a 20% flow rate.	Patent assignment as good as Grade 6, but twice the flow rate.	Not strengthened. An extremely strong paper for use as a base for color reduction procedures. Pre-pleated Grade 113V saves time and improves flow rate compared to standard-pleated papers.	
Retention (µm)	11	8	6	325	20-35	2.5	3	30	
Speed (100 ml)	150	240	325	37	1420	715	28	28	
Thickness (mm)	0.18	0.13	0.39	0.21	0.20	0.16	0.43		
Weight (g/m ²)	87	97	195	92	190	120	185		
Wet burst (psi)	0.25	0.23	0.40	0.22	0.40	0.25	9		
Form	Flat	Flat	Pre-pleated	Flat	Flat	Flat	Flat	Flat	Pre-pleated
Product Number	Product Number	Product Number	Product Number	Product Number	Product Number	Product Number	Product Number	Product Number	Product Number
224,004-4	3,15	224,018-4	3,15	224,020-7	5,01	224,051-6	3,30	224,078-1	3,40
224,005-2	3,15	224,019-2	3,25	224,020-8	5,03	224,052-4	3,30	224,079-6	4,30
224,006-0	3,30	224,020-6	4,35	224,021-9	5,00	224,053-2	5,50	224,079-6	5,00
224,007-9	5,20	224,021-4	5,00	224,022-7	5,80	224,054-9	7,70	224,081-8	7,10
224,008-7	5,30	224,022-0	6,65	224,023-5	10,50	224,055-9	9,75	224,082-6	9,75
224,009-5	6,35	224,023-0	8,25	224,024-3	12,05	224,056-7	11,90	224,083-4	11,25
224,010-9	9,20	224,024-8	11,25	224,025-1	18,70	224,057-5	11,90	224,084-2	17,30
224,011-7	11,30	224,025-7	16,10	224,025-8	24,80	224,058-3	18,10	224,085-0	25,70
224,012-5	21,30	224,026-5	26,50	224,026-6	42,65	224,059-1	31,30	224,086-9	39,95
224,013-3	35,25		51,40	—	—	224,060-5	50,45	224,087-8	48,90
224,014-1	35,70	224,028-1	54,45	224,028-8	87,75	224,061-3	59,95	224,087-7	70,80
224,016-8	59,30	—	82,90	—	224,062-1	—	—	224,088-6	71,75
224,017-6	90,00	—	130,50	224,029-3	224,063-4	—	—	224,089-2	74,25
224,018-4	130,00	—	195,00	224,029-3	224,064-8	—	—	224,090-0	84,05
224,019-2	195,00	—	270,00	224,029-3	224,065-2	—	—	224,091-1	94,85
224,020-6	270,00	—	345,00	224,029-3	224,066-6	—	—	224,092-6	105,65
224,021-4	345,00	—	420,00	224,029-3	224,067-0	—	—	224,093-1	116,45
224,022-0	420,00	—	495,00	224,029-3	224,068-4	—	—	224,094-6	127,25
224,023-0	495,00	—	570,00	224,029-3	224,069-8	—	—	224,095-0	138,05
224,024-8	570,00	—	645,00	224,029-3	224,070-2	—	—	224,096-4	148,85
224,025-7	645,00	—	720,00	224,029-3	224,071-6	—	—	224,097-8	159,65
224,026-5	720,00	—	795,00	224,029-3	224,072-0	—	—	224,098-2	170,45
224,027-9	795,00	—	870,00	224,029-3	224,073-4	—	—	224,099-6	181,25
224,028-1	870,00	—	945,00	224,029-3	224,074-8	—	—	224,099-6	192,05
224,029-3	945,00	—	1,020,00	224,029-3	224,075-2	—	—	224,100-0	202,85
224,030-7	1,020,00	—	1,095,00	224,029-3	224,076-6	—	—	224,100-0	213,65
224,031-1	1,095,00	—	1,170,00	224,029-3	224,077-0	—	—	224,100-0	224,45
224,032-5	1,170,00	—	1,245,00	224,029-3	224,078-4	—	—	224,100-0	235,25
224,033-9	1,245,00	—	1,320,00	224,029-3	224,079-8	—	—	224,100-0	246,05
224,034-3	1,320,00	—	1,395,00	224,029-3	224,080-2	—	—	224,100-0	256,85
224,035-7	1,395,00	—	1,470,00	224,029-3	224,081-6	—	—	224,100-0	267,65
224,036-1	1,470,00	—	1,545,00	224,029-3	224,082-0	—	—	224,100-0	278,45
224,037-5	1,545,00	—	1,620,00	224,029-3	224,083-4	—	—	224,100-0	289,25
224,038-9	1,620,00	—	1,695,00	224,029-3	224,084-8	—	—	224,100-0	300,05
224,039-3	1,695,00	—	1,770,00	224,029-3	224,085-2	—	—	224,100-0	310,85
224,040-7	1,770,00	—	1,845,00	224,029-3	224,086-6	—	—	224,100-0	321,65
224,041-1	1,845,00	—	1,920,00	224,029-3	224,087-0	—	—	224,100-0	332,45
224,042-5	1,920,00	—	1,995,00	224,029-3	224,088-4	—	—	224,100-0	343,25
224,043-9	1,995,00	—	2,070,00	224,029-3	224,089-8	—	—	224,100-0	354,05
224,044-3	2,070,00	—	2,145,00	224,029-3	224,090-2	—	—	224,100-0	364,85
224,045-7	2,145,00	—	2,220,00	224,029-3	224,091-6	—	—	224,100-0	375,65
224,046-1	2,220,00	—	2,295,00	224,029-3	224,092-0	—	—	224,100-0	386,45
224,047-5	2,295,00	—	2,370,00	224,029-3	224,093-4	—	—	224,100-0	397,25
224,048-9	2,370,00	—	2,445,00	224,029-3	224,094-8	—	—	224,100-0	408,05
224,049-3	2,445,00	—	2,520,00	224,029-3	224,095-2	—	—	224,100-0	418,85
224,050-7	2,520,00	—	2,595,00	224,029-3	224,096-6	—	—	224,100-0	429,65
224,051-1	2,595,00	—	2,670,00	224,029-3	224,097-0	—	—	224,100-0	440,45
224,052-5	2,670,00	—	2,745,00	224,029-3	224,098-4	—	—	224,100-0	451,25
224,053-9	2,745,00	—	2,820,00	224,029-3	224,099-8	—	—	224,100-0	462,05
224,054-3	2,820,00	—	2,895,00	224,029-3	224,100-2	—	—	224,100-0	472,85
224,055-7	2,895,00	—	2,970,00	224,029-3	224,101-6	—	—	224,100-0	483,65
224,056-1	2,970,00	—	3,045,00	224,029-3	224,102-0	—	—	224,100-0	494,45
224,057-5	3,045,00	—	3,120,00	224,029-3	224,103-4	—	—	224,100-0	505,25
224,058-9	3,120,00	—	3,195,00	224,029-3	224,104-8	—	—	224,100-0	516,05
224,059-3	3,195,00	—	3,270,00	224,029-3	224,105-2	—	—	224,100-0	526,85
224,060-7	3,270,00	—	3,345,00	224,029-3	224,106-6	—	—	224,100-0	537,65
224,061-1	3,345,00	—	3,420,00	224,029-3	224,107-0	—	—	224,100-0	548,45
224,062-5	3,420,00	—	3,495,00	224,029-3	224,108-4	—	—	224,100-0	559,25
224,063-9	3,495,00	—	3,570,00	224,029-3	224,109-8	—	—	224,100-0	570,05
224,064-3	3,570,00	—	3,645,00	224,029-3	224,110-2	—	—	224,100-0	580,85
224,065-7	3,645,00	—	3,720,00	224,029-3	224,111-6	—	—	224,100-0	591,65
224,066-1	3,720,00	—	3,795,00	224,029-3	224,112-0	—	—	224,100-0	602,45
224,067-5	3,795,00	—	3,870,00	224,029-3	224,113-4	—	—	224,100-0	613,25
224,068-9	3,870,00	—	3,945,00	224,029-3	224,114-8	—	—	224,100-0	624,05
224,069-3	3,945,00	—	4,020,00	224,029-3	224,115-2	—	—	224,100-0	634,85
224,070-7	4,020,00	—	4,095,00	224,029-3	224,116-6	—	—	224,100-0	645,65
224,071-1	4,095,00	—	4,170,00	224,029-3	224,117-0	—	—	224,100-0	656,45
224,072-5	4,170,00	—	4,245,00	224,029-3	224,118-4	—	—	224,100-0	667,25
224,073-9	4,245,00	—	4,320,00	224,029-3	224,119-8	—	—	224,100-0	678,05
224,074-3	4,320,00	—	4,395,00	224,029-3	224,120-2	—	—	224,100-0	688,85
224,075-7	4,395,00	—	4,470,00	224,029-3	224,121-6	—	—	224,100-0	699,65
224,076-1	4,470,00	—	4,545,00	224,029-3	224,122-0	—	—	224,100-0	710,45
224,077-5	4,545,00	—	4,620,00	224,029-3	224,123-4	—	—	224,100-0	721,25
224,078-9	4,620,00	—	4,695,00	224,029-3	224,124-8	—	—	224,100-0	732,05
224,079-3	4,695,00	—	4,770,00	224,029-3	224,125-2	—	—	224,100-0	742,85
224,080-7	4,770,00	—	4,845,00	224,029-3	224,126-6	—	—	224,100-0	753,65
224,081-1	4,845,00	—	4,920,00	224,029-3	224,127-0	—	—	224,100-0	764,45
224,082-5	4,920,00	—	4,995,00	224,029-3	224,128-4	—	—	224,100-0	775,25
224,083-9	4,995,00	—	5,070,00	224,029-3	224,129-8	—	—	224,100-0	786,05
224,084-3	5,070,00	—	5,145,00	224,029-3	224,130-2	—	—	224,100-0	796,85
224,085-7	5,145,00	—	5,220,00	224,029-3	224,131-6	—	—	224,100-0	807,65
224,086-1	5,220,00	—	5,295,00	224,029-3	224,132-0	—	—	224,100-0	818,45
224,087-5	5,295,00	—	5,370,00	224,029-3	224,133-4	—	—	224,100-0	829,25
224,088-9	5,370,00	—	5,445,00	224,029-3	224,134-8	—	—	224,100-0	840,05
224,089-3	5,445,00	—	5,520,00	224,029-3	224,135-2	—	—	224,100-0	850,85
224,090-7	5,520,00	—	5,595,00	224,029-3	224,136-6	—	—	224,100-0	861,65
224,091-1	5,595,00	—	5,670,00	224,029-3	224,137-0	—	—	224,100-0	872,45
224,092-5	5,670,00	—	5,745,00	224,029-3	224,138-4	—	—	224,100-0	883,25
224,093-9	5,745,00	—	5,820,00	224,029-3	224,139-8	—	—	224,100-0	894,05
224,094-3	5,820,00	—	5,895,00	224,029-3	224,140-2	—	—	224,100-0	904,85
224,095-7	5,895,00	—	5,970,00	224,029-3	224,141-6	—	—	224,100-0	915,65
224,096-1	5,970,00	—	6,045,00	224,029-3	224,142-0	—	—	224,100-0	926,45
224,097-5	6,045,00	—	6,120,00	224,029-3	224,143-4	—	—	224,100-0	937,25
224,098-9	6,120,00	—	6,195,00	224,029-3	224,144-8	—	—	224,100-0	948,05
224,099-3	6,195,00	—	6,270,00	224,029-3	224,145-2	—	—	224,100-0	958,85
224,100-7	6,270,00	—	6,345,00	224,029-3	224,146-6	—	—	224,100-0	969,65
224,101-1	6,345,00	—	6,420,00	224,029-3	224,147-0	—	—	224,100-0	980,45
224,102-5	6,420,00	—	6,495,00	224,029-3	224,148-4	—	—	224,100-0	991,25
224,103-9	6,495,00	—	6,570,00	224,029-3	224,149-8	—	—	224,100-0	1,002,05
224,104-3	6,570,00	—	6,645,00	224,029-3	224,150-2	—	—	224,100-0	1,012,85
224,105-7	6,645,00	—	6,720,00	224,02					